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A Multipolar 1984

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The multipolar balance of power has often been referred to as that system which is best to preserve world stability and peace. However, there are others who view the system's complexity as a certain roadblock to the goal it seeks. The opportunities for breakdown in a multipolar system are great indeed, but the flexibility it offers may provide the most viable program for future world peace.

A MULTIPOLAR 1984:

SPECULATIONS ON THE STABILITY OF A BALANCE OF POWER INTERNATIONAL SYSTEM

An article prepared

by

Professor Walter L. Barrows

We must remember the only time in the history of the world that we have had any extended periods of peace is when there has been balance of power. It is when one nation becomes infinitely more powerful in relation to its potential competitor that the danger of war arises. So I believe in a world in which the United States is powerful. I think it will be a safer world and a better world if we have a strong, healthy United States, Europe, Soviet Union, China, Japan, each balancing the other, not playing one off against the other, an even balance.

President Nixon in *Time*

With this remarkable statement, President Nixon has joined the time-honored debate among international relationists about the desirability of "balance of power" systems. Granted certain historical inaccuracies—balance of power systems easily have seen their fair share of war and suffering, while unipolar hegemonic systems have produced many a "generation of peace"—and granted the familiar conceptual pitfalls to which balance of power thinking is subject,[1] still the statement is couched in terms to which international relationists can respond. With our reasonably well-developed literature and dialog on balance of power models,[2] we should be in a well-placed position to assess Nixon's vision of the emerging global system. This is not to say that scholars can provide definitive judg-

I am heavily indebted to my colleagues E. Thomas Rowe, Raymond Duvall, and Gordon Tullock for many of the ideas expressed in this paper.

ments; we know too much about our ignorance to be so foolhardy. But we can speculate carefully, in a manner disciplined by the historical knowledge and analytical tools which have developed over the past few decades in the field of international relations.

Clearly the pentagonal system which Nixon describes has not yet emerged. Biopolarity may have given way to multipolarity in certain spheres of life (e.g., economic and technological), but in what Stanley Hoffmann calls "high politics" (military-strategic-political), the United States and the Soviet Union still dominate. Japan and Western Europe depend for their ultimate security upon the United States, and China is too hampered by economic and technological underdevelopment to yet claim great power status on a global (as opposed to regional) scale. So for the next few years an "even balance" in the 19th century sense—which seems to be the basis for Nixon's neo-Metternichean vision—cannot materialize, simply because of huge power inequalities among the five major actors. But what about a longer timespan, say 10 or 12 years? Suppose the world system continues to develop along its present course, with its tendency to equalize power among the "Big Five," what kind of a world will it be in a decade or so? We can pose the question more carefully. Assuming that in 1984 the international system is composed of five major actors of more or less equal power and that "balance of power" policies are the prevailing mode of interaction, how peaceful will this system be?

Before proceeding, however, it is necessary to scrutinize this basic assumption of rough equality among the five great powers of 1984. Simply put, it is not a realistic assumption. The figures below represent indicators of two dimensions of "power" (GNP and military expenditure) for 1970 and 1984. Note that it is only with the most

1970: GNP AND DEFENSE EXPENDITURES

	GNP ($ billions)	Defense Expenditures as % of GNP	Defense Budget ($ billions)
United States	977	8	78
W. Europe	660	3.7	24
U.S.S.R.	497	10	50
Japan	197	0.8	2
China	120	8.3	10

1984: "GENEROUS" ESTIMATES OF GNP AND DEFENSE EXPENDITURES

	Assumed Av. Annual GNP Growth Rates	Estimated GNP ($ billions)	Estimated Defense Expend. as % of GNP	Estimated Defense Budget ($ billions)
United States	3%	1480	5	74
W. Europe	5	1300	5	65
U.S.S.R.	7	1280	5	64
Japan	10	750	10	75
China	10	455	15	68

Source: U.S. Arms Control and Disarmament Agency, Bureau of Economic Affairs, *World Military Expenditures 1971* (Washington: 1972), pp. 10-12.

generous estimates of economic growth and reallocation to defense considerations in Japan and China—as well as marked decreases in U.S. economic growth and Soviet defense expenditures—that power parity is achievable. For China to average an annual 10 percent growth in GNP between 1970 and 1984 is nearly inconceivable; it is almost as difficult to imagine Japan building a major military force and sustaining her economic growth boom simultaneously. Both feats would require extraordinary efforts. This calls attention to a second, more hidden, assumption, that the disruptive impact of new entrants into the central international system will not be sufficient to destroy it. For the global system of 1984 to be composed of five actors whose power is more or less equal, three of them will have to move swiftly up the international power hierarchy in order to "catch up" with the two superpowers. Such rapid mobility is a destablizing force. Established great powers cannot help but view with trepidation the onrush of new competitors whose capabilities are increasing but whose intentions are not yet clear. For instance, consider a Soviet Union flanked on the west by an increasingly assertive Western Europe and on the east by Japan and China striving full tilt toward great power status. The temptations for at best obstructive tactics and at worst preemptive war may well prove irresistible. That is, one or both of the superpowers may act to prevent the emergence of a fully multipolar system. Hence, the process of creating a multipolar system may sow the seeds of its own destruction. For our purposes, however, we shall simply assume that a multipolar system exists in 1984, without inquiring into the dynamics by which it came about. It is worth noting, though, that were this assumption to be relaxed by more thoroughly treating the destabilizing impact of rapid power mobility, the conclusions of this paper would have to be reconsidered.

II

How peaceful would a multipolar balance of power system be in 1984? In attempting to deal with this question, it seems wise first to stipulate a conceptual framework (paradigm) which suggests and organizes variables relevant for the problem at hand. It has become common in political science to think in terms of "systems"; furthermore, any political system—whether local, regional, national, or international—can be analyzed in terms of interrelationships among its basic features:[3]

Structure (e.g., multipolarity)
Norms (e.g., balance of power rules)
Behavior (e.g., peace or war)
Environment (e.g., biophysical resources).

The particular system under consideration here—the global political system of 1984—can be adumbrated according to these categories.

The *structure* of the system will be, by assumption, multipolar. This means that relations among five or more major actors of roughly equal power (however defined) determine in large part the constraints upon and opportunities for behavior for the major actors as well as for the many minor actors in the system. We can describe its structure further by noting two contemporary trends which are loosely linked with the movement toward multipolarity and which, if projected a decade into the future, would make the system of 1984 structurally more complex than the term "multipolarity" would suggest. The first is a trend toward sharper systemic discontinuities; that is, there is a tendency for regional subsystems (e.g., the Middle East) to evolve which are imperfectly coupled with the wider system. "The discontinuities model . . . stresses the importance of both systemwide and regional factors and emphasizes the complex patterns of their interpenetration, leaving room for shifting weights with regard to the

question of which factor is dominant."[4] The second trend is the growth of transnational organizations (e.g., Exxon) in numbers and importance.[5] Assuming that this trend continues, the conventional territorial state in 1984 will be supplemented by a new kind of international actor whose major structural impact will be to facilitate the flow of resources across political jurisdictions, in effect diffusing the boundaries of the actors in the system.

These two tendencies reinforce the impact of multipolarity upon a key feature of the system's structure—complexity. Almost by definition multipolar systems are more complex than bipolar systems, other things being equal, but evolving discontinuities and the proliferation of transnational actors will render any future system even more complex. The system of 1984 is likely to be "entropic"—characterized by increasing decentralization, disorganization, variety, and uncertainty.[6]

The *norms* of the system comprise the independent variable in this analysis. Given a multipolar structure in 1984, would the system be peaceful were a "balance of power" normative set to prevail? Easily the "hoariest concept in the field of international relations,"[7] balance of power has acquired so many meanings that its intellectual utility is suspect, but statesmen and generals continue to attach significance to it, and for that reason alone it is worthy of analysis, as a research datum, so to speak. Its meaning here defines it as a part of the international political culture, a congeries of attitudes and prescriptions about politics and policy. The literature on balance of power is replete with calls for vigilance, military preparedness, realism, and prudence on the part of statesmen, but the most systematic formulation is found in Morton Kaplan's familiar "essential rules" for balance of power systems:[8]

1. increase capabilities, but negotiate rather than fight;

2. fight rather than fail to increase capabilities;

3. stop fighting rather than eliminate an essential actor;

4. oppose any coalition or single actor that tends to assume a position of predominance within the system;

5. constrain actors who subscribe to supranational organizational principles; and

6. permit defeated or constrained essential national actors to reenter the system. . . .

As a policy guide for international actors, these rules set up a dynamic tension between competitiveness and restraint, between military and diplomatic courses of action, and between self-assertiveness and common cause. They recognize strategic interdependencies but stress the ultimate need for self-reliance and autonomy; that is, except for coalitions designed to check the power of rivals, international cooperation is dismissed as a constraint upon an actor's freedom to maneuver. Actors are envisioned as isolated, linked structurally only by common membership in a strategic system. Put differently, the caste of mind reflected in balance of power prescriptions is appropriate for systems whose actors are relatively unencumbered by interdependencies—economic, technological, demographic, ideological, et cetera—which derive either from structural elaborations within the system or from common responses to the system's environment or both. The essential "boundedness" of actors is a key assumption underlying balance of power thinking. A question then arises, to what extent is this assumption likely to be met in the system of 1984, and if it turns out not to be an appropriate assumption, what effect will this have on the likelihood of war?

The purpose of these balance of power rules is to maintain a stable system through preserving its major actors; maintaining peace is important

only insofar as war—e.g., nuclear war—threatens the existence of major actors and hence the system itself. Peace and stability are not synonomous. It is perfectly possible—and indeed the historical record more than adequately bears this out—to have a stable balance of power system which experiences extensive violence. The question which concerns us most is, given the structural and environmental conditions of 1984, how strong will the incentives be for actors to apply rule number 1 ("negotiate rather than fight") compared with the incentives for rule number 2 ("fight rather than fail to increase capabilities")? Assuming that actors are rational,[9] the ratio of costs to benefits of negotiation *versus* the cost-benefit ratio of fighting will determine which rule will prevail at any particular time for any particular actor. Highly deterministic language need not be read into this formulation. We may simply say that there is a significantly higher probability that one rule will be preferred over another if the incentives are appropriate. Furthermore, we need not say that norms determine behavior, only that the choice of a particular rule significantly increases the probability that a certain kind of behavior will ensue. The choice between rule number 1 and rule number 2 will have a large bearing on whether behavior in the system of 1984 is peaceful or warlike.

The *behavior* of the system a decade from now embraces our dependent variable. What is the likelihood that the system will experience violent confrontations among or between major actors? Our strategy for speculation entails forming admittedly subjective judgments about the chances for peace or war in a balance of power system, given certain structural and environmental conditions extrapolated to 1984 from contemporary trends.

Or, to assume a cybernetics perspective, we may treat "peace" as a desired outcome and then speculate upon the ratio of disturbing variety to regulatory variety likely to obtain. Disturbances (D) from within the system and from its environment must be at least matched by its regulatory capacity (R), or else the desired outcome will disappear. The Law of Requisite Variety states that "only variety in R can force down the variety due to D; only variety can destroy variety."[10] Historically, in balance of power systems the regulatory mechanisms have included such devices as war, shifting alliances, the holder of the balance (e.g., Great Britain), territorial and other kinds of exchanges to compensate for power imbalances, intermittent conferences such as the Concert of Europe, and, importantly, the self-restraint of major actors due to limited objectives, fear of concerted retaliation and/or commitment to the system (what Kissinger calls the "legitimacy" of the system).[11] These typically have aimed at "stability" as the desired outcome, but we are interested here in "peace." What are the chances that these mechanisms—plus whatever additional mechanisms evolve by 1984—will contain enough flexibility (variety) to regulate the disturbances likely to be produced by the system and its environment? It should be emphasized that we are identifying a balance of power system with a particular normative orientation, not with a particular set of regulatory mechanisms. Hence, we are not asking whether certain mechanisms (e.g., shifting alliances or territorial exchanges) will exist in 1984, but rather whether the mechanisms that do arise (whatever they are) will be adequate for managing the inevitable disruptions from within and without the system.

A political system's *environment* includes everything that impinges upon it from outside its boundaries. This can include other political systems, but in the case of a global system the most relevant environment is biophysical and cultural. The environment can be envisioned as supplying needed tangible

resources—food, energy, materials, space, repositories for waste, clean air and water, et cetera—to the system.[12] These resources are limited, the scarcity of a particular resource being a function of its availability and the value attached to it by the actors of a system. The environment also supplies intangible resources, most notably ideas and knowledge in the form of technology. The supply of technology is not fixed, except over very short time intervals, and technological development can change both the supply of and demand for particular tangible resources. Hence, the environment's impact upon a system can vary widely with changes in technology and shifts in the value preferences of actors.[13] Developments which increase environmental supply—e.g., improvements in transporation which make available a greater variety of commodities—enhance the regulatory capacity of a system by dampening competition among actors for the same resources. On the other hand, an environment whose supply is decreasing—e.g., the contemporary "energy crisis"[14]—or whose predictability is decreasing—e.g., the impact of technology on weaponry—magnifies disturbances within the system by intensifying the struggle for scarce resources. Furthermore, the environment interacts with the system through "externalities"; that is, the behavior of one actor may inadvertently affect another through its impact on the environment, e.g., pollution, fallout, blocking a canal.[15] Like resource demand and supply, the extent to which externalities are present is determined largely by technology. Some technologies increase externalities and some decrease them, although it is probably fair to say that the overall impact of technology through the centuries has been to increase interdependencies among actors.

The environment of the contemporary system has, among others, the following features:

- Increasing scarcity. One need not accept the extreme predictions of the *Limits to Growth* model[16] to appreciate how demands are presently increasing at a faster rate than supplies. Even if the environment actually is responding adequately to increased demands upon it, the *perceptions* of actors about their surroundings today generally envision growing constraints and dwindling supplies, and, after all, the policies of actors are influenced by what the Sprouts call the "psychomilieu" rather than the "operational (actual) milieu."[17] There is no inevitability to this trend, but if we assume that it continues throughout the decade, the system of 1984 will be characterized by sharp rivalries among major actors for environmental supply.
- Increasing uncertainty. Technology has been growing at an exponential rate for the past three centuries, and there is no reason to assume that this trend will abate. As mentioned before, the impact of new technologies upon a system is unpredictable. A particular development might increase or decrease resource supply, enhance or diminish preferences for particular resources, widen or contract externalities. Moreover, the secondary and tertiary effects of a technology upon any or all aspects of a system are extremely difficult to predict. Military security is a critical area heavily affected by the technological environment. It has become commonplace to note the disruptive potential of "qualitative" changes upon the existing "stable mutual deterrence" among nuclear superpowers. Lasers, military satellites, nuclear-powered aircraft, chemical and biological warfare, weather control, genetic control, thought control—these are some of the most obvious candidates for technological application within the next decade or so. Consider the disturbing effects of a "breakthrough" in antisubmarine warfare if it were to occur before land-based missiles become obsolete, now

expected toward the end of the 1970's.[18] Consider, further, the impact of not two, but five or more centers of advanced military research and development, a condition implied by a combination of multipolarity and balance of power rules of the game. Assuming (realistically) that this technological trend will continue for the next decade, the uncertainty factor in the system of 1984 is likely to weigh heavily upon the decisions of its constituent actors.

• Widening externalities. Technology today, especially in the field of communications, has the effect of increasing interdependencies. Events in one country ramify across its boundaries to its neighbors, e.g., *coup* contagion in Africa or the spread of student demonstrations among Western democracies. Pollution, space travel, exploitation of the seabed, and international currency flows are other areas in which actors in the contemporary system are increasingly prone to overlapping jurisdictions. Some of these externalities are positive—e.g., shared information from weather satellites—and some are negative—e.g., radioactive fallout—but the overall impact upon the system of 1984, given a continuation of the present trend, will be a diminution of the "boundedness" of the separate actors. The "penetrated state" with "permeable boundaries" already characterizes international relations today;[19] it is likely to prevail even more so in the system a decade from now.

III

We have constructed a descriptive model of a system in 1984 which, compared to the contemporary system, is more loosely structured and more unpredictable, is inhabited by actors whose boundaries are less distinct and whose environment is less plentiful, and is informed by rules of the game which place more emphasis on military action, power checking, and self-interest. At first blush the system seems ripe for war, if for no other reason than its sheer "messiness." Especially with nuclear proliferation, there seems a great potential for conflagration due to actors seeking to protect themselves—perhaps through preemptive strikes—against hidden dangers, blackmail, and rivals for scarce environmental supply. Or, to use our cybernetic perspective, variety which tends to disturb peace as the desired outcome is unlikely to be adequately regulated in so disorganized a system as the one envisioned here, particularly given the competitiveness of balance of power norms. This is the kind of conclusion which has been reached recently by an impressive number of eminent international relationists.[20]

But perhaps such conclusions underestimate the adaptability of complex social systems. Systems theorists are wont to sermonize about the structure-elaborating, self-regulatory, and responsive nature of living systems,[21] and perhaps we should take their advice more to heart.

First, there is the question of flexibility. It is true that as entropy (disorder) in a system increases, the potential for disturbing variety also increases; but, by the same token, so does the potential for regulatory variety, although not necessarily in the same proportion. Deutsch and Singer have pointed out that as we increase the number of major actors in a system, the opportunities for dyadic interactions and associations increase dramatically.[22] Further structural complexities from regional subsystems and from transnational organizations add to the possibilities for new combinations, recombinations, and transactions among elements in the system. The point is simply that the model we have constructed is pregnant with novel arrangements—mutations, so to speak—which may serve to regulate violence or at least to alleviate the conditions which lead to

violence. We should not close our eyes to new possibilities nor automatically assume that the classical mechanisms (e.g., the "holder of the balance") will hold the key to peace in the future system.

One such possibility which is not particularly novel but which has already acquired new importance as bipolarity shades into multipolarity is the international conference. SALT, CSCE, MBFR, the U.N. Conference on the Human Environment, the upcoming Law of the Sea Conference—not to speak of frequent trade and monetary conferences—all are examples of "assemblies" which emerged as regulatory responses to complicated problems. Perhaps this trend, or some variant, will provide a major regulatory mechanism in the future. Note that this form of international association does not violate number 5 of the balance of power rules ("constrain actors who subscribe to supranational organizational principles") since such conferences are *ad hoc* and rely essentially upon the voluntary and self-interested compliance of actors, not upon collective authority. They are somewhat analogous to the 19th century Concert of Europe, except that they are more complex and their goals are different. The intent here is not to predict, but simply to suggest in pedestrian fashion one possibility for a system which is likely to be ripe with potential.

Second, the uncertainty inherent in the system need not induce recklessness and near-automatic resort to preemptive violence among actors. Indeed, a rational actor faced with uncertainty has incentives to calculate conservatively and cautiously, for fear of risking what he already possesses. Negotiation, even for low payoffs, is likely to be an inviting strategy in situations where there is some undisclosed probability that a violent course of action will incur devastating costs. The costs of negotiation will rise as a system becomes structurally more complex and uncertain; but the costs of violence are likely to increase at a much faster rate, since an actor needs to contend with the retaliation of not one, but many, rivals. Furthermore, the benefits of negotiation are apt to be relatively high in complex situations (other things held equal), since the opportunities for exchange are enhanced as the variety of elements in the system is increased. On the other hand, the benefits from violence probably decrease as a system becomes more complex and decentralized, since the fruits of a victory provide a smaller share of control over the system as a whole; that is, conquering a rival actor in a multipolar system still leaves you facing a number of other actors, whereas victory over a bipolar rival means control (no doubt temporary) of the whole system. In short, there is reason to believe that in the 1984 system modeled here there will be a much stronger incentive to favor balance of power rule number 1 ("negotiate") over rule number 2 ("fight").

This argument holds even for a world of nuclear powers. There has been a tendency in international relations to accept unthinkingly the notion that nuclear dispersion leads automatically to much greater risks of conflagration than nuclear exclusiveness. This may be ture, but the logic behind an n-actor "stable mutual deterrence" has been given much less attention than the usual two-actor case. A recent collection edited by Richard Rosecrance has addressed itself to this problem; it contains a surprising number of opinions which suggest that stability *increases* as the number of nuclear-armed actors rises.[23] Much depends, of course, upon the quantity and quality of each actor's weapons and upon inequality among actors, but the basic disincentive to attack—fear of third-party retaliation—remains strong in multipolar arrangements. Two features of our 1984 system

enhance this disincentive to strike first. Balance of power norms encourage actors to punish (rule number 4) and exploit (rule number 2) other members of the system who engage in nuclear exchanges. And the effect of uncertainty reduces the expected value of nuclear adventurism:

> In the previous bipolar system, deterrent credibility was presumably provided by the *certainty* of punishment if certain aggressive or provocative military actions were taken. . . . But the system of multipolarity will itself be uncertain. Once military action is taken, given the existence of five powers and the possible relationships, an aggressor just cannot know what will happen. . . . His nuclear attack upon one power may lead to a series of nuclear attacks by other powers; the position he will finally derive in economic, military and status terms will be unclear, even opaque. He cannot foresee the consequences of his own action.[24]

Critics of balance of power often cite the difficulties inherent in making the fine calculations of military and other kinds of power in order to achieve the "balance" that holds the system together.[25] But this very difficulty provides a safety margin. Actors will be untempted to exploit a perceived power superiority if, in an uncertain world, they distrust their own calculations.

Third, while it is true that there exists in our model a contradiction centering on the "boundedness" of actors—structurally the model builds in interpenetrations among actors while normatively it presumes actor autonomy—this contradiction need not dispose the system toward violence. Indeed, to the extent that dependencies are mutual and more or less equally distributed among actors, violence as a rational course of action will be discouraged. An actor which is connected to all other elements of the system by myriad transnational organizations, exchanges, and externalities will likely tug gently, not violently, on the ties that bind. If vital spheres of national life are merged inextricably with the international system, prudence will be the watchword. Actors may rail against pervasive dependence on outsiders, but they are unlikely to jeopardize national existence through aggressive moves. In such circumstances bargaining holds out more prospects than battle; maneuvering at the margin provides better insurance for national survival than going for broke. In short, interdependencies impose restraints. Negotiation is a more attractive mode of competition than fighting when mutuality attaches to every move.

(These comments should be tempered by noting the central importance of our assumption that the major actors are roughly equal in terms of the things that count for international politics. If, for instance, three actors were thoroughly penetrated by the rest of the system while two remained significantly more autonomous, it cannot be assumed that violence would prove an untempting strategy for an actor wishing to improve or maintain its relative power standing. Inequality of outside dependence among actors may entice an actor to exploit its relative autonomy through violent means, or a heavily penetrated actor may consider its bargaining position untenable and resort to violence as the only remaining way to compete. The equality assumption exerts similar influence upon the other conclusions of this paper.)

Rule number 5 ("constrain actors who subscribe to supranational organizational principles") would seriously hamper efforts to deal collectively with common problems. Often the most effective way to treat negative externalities (e.g., pollution) is to set up a collective authority with the power to compel actors to adhere to agreed upon policies. But such arrangements would

violate the spirit and letter of balance of power norms, which restrict cooperative efforts to *ad hoc* and voluntary modes of action. Hence, a balance of power system in 1984 would tackle important problems in less than adequate fashion. Pollution, resource depletion, exploitation of the seabed, space exploration, arms control—such issues would be left to the hazards of decentralized control, where the more important the matter, the more each actor would insist on its own discretion in deciding the proper mix of cooperation and competition. This is not to say that common problems will be ignored nor is it to say that violence will be made more likely if such problems remain unsolved; it simply means that the system's response to them will be less than optimum. Balance of power rules represent a constraint on the system's ability to elaborate higher structures of authority.

Fourth, and finally, worsening environmental scarcity will lead to unrestrained—violent—competition among actors only in special circumstances. Living systems have diverse adjustment mechanisms for adapting to changing milieus. It is only when scarcity is increasing at a faster rate than the system's ability to adapt that breakdown is imminent. Our model of the 1984 system, because of its structural complexity and its technological dynamism, possesses an inherently high potential for adaptability and adjustment. True, its balance of power norms will impede collective responses to common environmental challenges and will encourage actors to work at cross-purposes; but, on the other hand, balance of power competitiveness will most likely enliven the decentralized activism of the system, which is, after all, the essential source of its flexibility. The underlying analogy here is with *laissez-faire* economics, which relies upon the self-interested behavior of many actors to generate the system's responsive capacity. An analogy so steeped in domestic controversy may create more heat than light, but it seems appropriate for a system as decentralized as the one being modeled here.[26]

Exchange—of goods, people, resources, information—is a principal mechanism by which social systems adjust to their environments. The more the exchange opportunities within a system, the greater the potential for allocating scarce values in an efficient manner; the pressure of scarcity is eased by the "gains from trade." Hence, an important question is whether scarcity is increasing at a faster rate than exchange interactions. Violent conflict becomes more likely when actors are no longer able to satisfy their demands through reciprocation. Or, as Deutsch and Singer put it: "[I]n a system characterized by conflict-generating scarcities, each and every increase in opportunities for cooperation (i.e., to engage in mutually advantageous trade-off), will diminish the tendency to pursue a conflict up to and over, the threshold of war."[27] Needless to say, the 1984 model is structured in a way which provides myriad opportunities for exchange: between major actors, between major actors and minor actors, between minor actors, between the central system and regional subsystems, between subsystems, and between any of the above and transnational organizations. Moreover, as trade opportunities increase, the variety of values likely to be drawn into the exchange nexus is also likely to increase. We need not confine our analysis to the conventional items—commodities, currencies, people—normally considered in the field of international economics. The Lasswellian values—power, wealth, respect, skill, enlightenment, safety, et cetera—better express the scope of our concern.[28] Power may be traded for wealth, which in turn may be converted into respect, which then might be exchanged for more power. Complicated trade-offs of this nature are already

becoming prominent in the contemporary international system. East-West relations today seem to be entering a pattern whereby "wealth," "enlightenment," and "respect" are used as compensation by the NATO powers to induce a reduction of tension–"safety" –on the part of the Soviet bloc countries; that is, by transferring wheat and technology, by accepting the *status quo* in Eastern Europe, and by recognizing the Soviet Union's status as a coequal nuclear power, the United States and NATO have been able to extract various concessions (*viz.*, Berlin, Vietnam) which serve to relax cold war stresses. In closing such "package deals," actors make commensurable values which were not previously exchanged. New values lend fluidity to international relations, heightening the probability that mutually profitable interactions will take place despite tightening scarcity of tangible resources. In short, the system of 1984, by virtue of its structural complexity, boasts an emergent exchange network which can go a long distance toward meeting the challenges of a physical environment growing more niggardly by the day. Whether this adjustment mechanism will be fully sufficient depends, of course, upon the relative rates of growth of the two opposing forces, exchange opportunities, and scarcity.

Closely related to exchange is the price mechanism. As a good becomes more scarce, its price rises. This not only reduces demand, but it also enhances the profitability of technological innovations designed to make the good less scarce.[29] Prices and technology, then, are two additional processes by which system-environment adjustments are made. The price mechanism can be envisioned as an extremely flexible regulatory device through which environmental scarcities are signaled to decisionmakers within the system.

In the system of 1984, however, major actors are unlikely to be satisfied with the price mechanism alone, especially in the field of technology. The balance of power game played for high stakes will assure that each actor invests considerably in research and development in order to secure supplies of needed resources, anticipate future needs, and invent substitutes for costly goods. (Examples from the contemporary system are increasingly available, e.g., the "national energy policy" being formulated by the United States.) Put differently, self-interested actors are likely to supplement the strictly "private" relationship between prices and technology by allocating significant "public" energy to the development of useful knowledge. Indeed, it is probably correct to say that more resources will be invested in techniques for dealing with the environment in a balance of power system than in one where a less competitive set of norms prevails. What cannot be predicted is whether the gains from this larger total investment will outweigh the losses from actors working at cross-purposes, a condition encouraged by balance of power rules. Whatever, the basic point is that technological development represents a major means by which the system of 1984 will respond to environmental scarcities and that balance of power norms can be expected to augment its impact.

These "economic" responses to increasing scarcity do not by any means

BIOGRAPHIC SUMMARY

Professor Walter L. Barrows received his undergraduate education from Princeton University and his M.A. and Ph.D. from Yale University. He has written a number of articles on African politics; his book on the linkages between local and national politics in Sierra Leone will be published later this year. Presently he is engaged in a study of Mutual Balanced Force Reduction and NATO's reaction to it. On leave of absence from Virginia Polytechnic Institute and State University, he is teaching in Vicenza, Italy with the Boston University Overseas Graduate Program.

exhaust the possibilities for systemic adjustment to a changing environment. A more "political" reaction might entail actors carving out for themselves exclusive geographical areas of predictability and security of environmental supply. The core of each area would, of course, be the national territory of the actor itself, but its periphery might extend well beyond, in effect expanding the actor's boundaries to coincide with a regional subsystem. The effect would be to heighten between-region discontinuities but to reduce them within regions. This seems a reasonable prediction for the system of 1984. As actors strive to master uncertainty and to gain for themselves reliable resource sites, they will likely step up their efforts close to home where they can maximize control and regularize exchange relationships. Fairly well-defined "spheres of influence" are likely to emerge—regional subsystems, each dominated by a major actor. Intensive intraregional rather than extraregional development will become the prime mode of competition. Some spheres of influence will be easier to define than others. The United States in the Americas, the Soviet Union in Eastern Europe, Western Europe in Africa—these seem clear-cut possibilities. But the boundary between, say, Japanese and Chinese spheres of influence or between Soviet and West European claims in the Mediterranean—these may remain sources of ambiguity and tension. Perhaps the Middle East will develop its regional autonomy undominated by a major actor, and likely areas such as the high seas will retain their "no man's land" character.

It should be immediately observed that were regionalization to proceed to such an extent that it subsumed other structural features of the system, it would counteract a number of attributes which we have considered desirable from the point of view of promoting peace. That is, the more the system assumes a clear-cut "multibloc" character, the less it can be described as structurally ambiguous, decentralized, and diffuse—and the less mutually overlapping interests as well as uncertainty can be counted on to restrain the behavior and ambitions of actors.[30] Should the system of 1984 respond to environmental scarcity by elaborating a new simpler structure based primarily on regions, its most appealing property —complexity—will have been diminished.

IV

In speculating upon the prospects for peace in a multipolar 1984, we have put forward the proposition that a balance of power system need not be so war-prone as many critics have intimated. The system is constructed in such a way that competitive actors seeking self-interest are likely to shun or at least minimize war as a rational course of action. Balance of power rules work to secure the independence of major actors through checking relationships among mutually suspicious rivals; if, at the same time, they can be made to encourage prudence and self-restraint among these same actors, then the probability of war is reduced significantly. The interaction of the system's structure and environment with these norms, we have said, promotes peaceful behavior.

These optimistic conclusions, however, should be interpreted with the same tentative spirit as that with which they are delivered. Model building is an exploratory exercise carried out by fitting together assumptions which have been made explicit and ferreting out those left implicit. The crude descriptive model presented here is composed solely of assumptions, any one of which is open to challenge; perhaps more importantly, hidden suppositions color the conclusions which can be drawn from it. For instance, we have taken it for granted that major actors will com-

mand a decisionmaking capacity commensurate with the complicated world which we envision for 1984; implicit has been the assumption that *all* the great powers, however rational, can to a high degree tolerate ambiguity, process communications, handle uncertainty, impose self-control, and maneuver flexibly.[31] Decisionmaking overload will be a formidable peril for the future system. If actors respond to complexity and confusion by locking themselves into preprogramed courses of action in a manner akin to the rigid alliances and irreversible military plans which preceded the onrush of World War I, then uncontrolled violence is a likely outcome. If, on the other hand, they mobilize the requisite internal resources for playing the labyrinthine game of politics predicted for 1984, then peace is a considerably more likely prospect.

NOTES

1. Ernst Haas, "The Balance of Power: Prescription, Concept or Propaganda?" *World Politics*, July 1953, pp. 446-477.

2. Hans Morgenthau, *Politics Among Nations* (New York: Knopf, 1967); Inis Claude, *Power and International Relations* (New York: Random House, 1962); Quincy Wright, *A Study of War* (Chicago: University of Chicago Press, 1964); Richard Rosecrance, *Action and Reaction in World Politics* (Boston: Little, Brown, 1963); Morton Kaplan, *System and Process in International Politics* (New York: Wiley, 1957); Harold Lasswell, *World Politics and Personal Insecurity* (New York: McGraw-Hill, 1935).

3. For a lucid introduction to systems thinking, see Walter Buckley, *Sociology and Modern Systems Theory* (Englewood Cliffs, N.J.: Prentice-Hall, 1967). The particular division of systems into structure, norms, behavior, and environment is an adaptation of David E. Apter and Charles F. Andrain, *Contemporary Analytical Theory* (Englewood Cliffs, N.J.: Prentice-Hall, 1972), introduction; and Samuel H. Beer and Adam B. Ulam, *Patterns of Government* (New York: Random House, 1962), part 1.

4. Oran Young, "Political Discontinuities in the International System," Robert L. Pfaltzgraff, Jr., ed., *Politics and the International System* (Philadelphia: Lippincott, 1972), p. 122.

5. On transnational organizations see the Summer 1971 issue of *International Organization*, edited by Joseph S. Nye and Robert O. Keohane; also, Samuel P. Huntington, "Transnational Organizations in World Politics," *World Politics*, April 1973, pp. 333-368.

6. See the "entropy model" presented in James A. Caporaso, *Functionalism and Regional Integration: a Logical and Empirical Assessment* (Beverly Hills, Calif.: n.p., 1972), pp. 17-24.

7. Kenneth N. Waltz, "International Structure, National Force, and the Balance of Power," *Journal of International Affairs*, vol. XXI, No. 2, 1967, p. 215.

8. Morton A. Kaplan, "Some Problems of International Systems Research," *International Political Communities* (Garden City, N.Y.: Anchor Books, 1966), p. 472. See also Kaplan, *System and Process in International Politics.* Kaplan leaves us unclear about how to treat his "essential rules." They can be interpreted as functional requisites for stability, as empirical propositions about the behavior of actors, or as prescriptions internalized by the actors of a system. In this paper they are interpreted in the latter manner.

9. The assumption that actors are rational—i.e., that they will attempt to maximize their utility—is less common in international relations than in economics, where it is the centerpiece of a well-developed body of deductive theory. For a discussion and critique of the rationality assumption in international relations, see Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown, 1971).

10. W.R. Ashby, "Self-Regulation and Requisite Variety," in F.E. Emery, ed., *Systems Thinking* (Baltimore: Penguin, 1969), p. 110. Richard Rosecrance, *Action and Reaction in World Politics* (Boston: Little, Brown, 1963) is one of the few instances where the Law of Requisite Variety has affected international relations analysis.

11. Henry Kissinger, *A World Restored* (Boston: Houghton Mifflin, 1957); and Henry Kissinger, *American Foreign Policy: Three Essays* (New York: Norton, 1969).

12. On the notion of environmental supply, see Richard Rosecrance, *International Relations: Peace or War?* (New York: McGraw-Hill, 1973); also Harold and Margaret Sprout, *Towards a Politics of the Planet Earth* (New York: Van Nostrand Reinhold, 1971).

13. See the discussion of the impact of technology in Sprout and Sprout.

14. Actually, the "energy crisis" as far as petroleum fuel is concerned, is as much a result of the impact of the political system on the environment as *vice versa*; that is, fuel shortages have a political cause. See M.A. Adelman, "Is the Oil Shortage Real?" *Foreign Policy*, Winter 1972-73, pp. 69-107.

15. "Externality" is essentially a notion from economics. For political applications see Gordon Tullock, *Private Wants, Public Means* (New York: Basic Books, 1970).

16. Donella H. Meadows, *et. al.*, *The Limits to Growth* (New York: Universe Books, 1972).

17. Sprout and Sprout.

18. Herbert Scoville, Jr., "Beyond SALT One," *Foreign Affairs*, April 1972, pp. 488-500.

19. See the seminal article by James N. Rosenau, "Pre-Theories and Theories in Foreign Policy," R. Barry Farrell, ed., *Approaches to Comparative and International Politics* (Evanston, Ill.: Northwestern University Press, 1966), pp. 65-92.

20. E.g., Zbigniew Brzezinski, "The Balance of Power Delusion," *Foreign Policy*, Summer 1972; Stanley Hoffmann, "Weighing the Balance of Power," *Foreign Affairs*, July 1972, pp. 618-643; Albert Wohlstetter, "Japan's Security: Balancing After the Shocks," *Foreign Policy*, Winter 1972-73, pp. 171-190.

21. E.g., Buckley.

22. Karl W. Deutsch and J. David Singer, "Multipolar Power Systems and International Stability," *World Politics*, April 1964, pp. 390-406.

23. See the chapters by Kaplan, Quester, Harsanyi, Selten and Tietz, and Rosecrance in Richard Rosecrance, *The Future of the International Strategic System* (San Francisco: Chandler, 1972).

24. Rosecrance, *The Future of the International Strategic System*, p. 183.

25. E.g., Lasswell, and Claude.

26. Actually, "monopolistic competition" between a limited number of large firms provides a more appropriate parallel to our multipolar international system than "perfect competition" among a large number of small firms. See E.H. Chamberlain, *Theory of Monopolistic Competition* (Cambridge, Mass.: Harvard University Press, 1962).

27. Deutsch and Singer, p. 396.

28. Harold Lasswell and Abraham Kaplan, *Power and Society* (New Haven: Yale University Press, 1950).

29. See the review essay on *Limits to Growth* by Carl Kaysen, "The Computer that Printed Out W*O*L*F*," *Foreign Affairs*, July 1972, pp. 660-668.

30. Roger Masters, "A Multi-Bloc Model of the International System," *American Political Science Review*, December 1961, pp. 780-798.

31. The domestic requirements for actors in balance of power systems are discussed by Stanley Hoffmann in "Will the Balance Balance at Home?" *Foreign Policy*, Summer 1972, pp. 60-87. Hoffmann is pessimistic about the ability of the United States to muster the required internal resources.

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Politics and arms seem unhappily to be the two professions most natural to man, who must always be either negotiating or fighting.

Voltaire, 1694-1778